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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,713	11/30/2001	Cha-Bong Choi	P-0289	3691
34610 7590 04/03/2007 KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200			EXAMINER CZEKAJ, DAVID J	
			ART UNIT 2621	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/996,713	CHOI, CHA-BONG	
	Examiner	Art Unit	
	Dave Czekaj	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/23/07 has been entered.

Response to Arguments

On pages 10-11, applicant argues that Irube fails to disclose a camera module connected to a camera, installed within the mobile terminal. While the applicant's points are understood, the examiner respectfully disagrees. See for example Irube figure 1. There Irube illustrates the camera module, or camera IF unit, is installed within the mobile terminal 1. The examiner notes the claim language, as interpreted by the examiner, recites the camera module being installed within the mobile terminal, not the camera being installed within the terminal. Therefore the rejection has been maintained.

On page 12, applicant argues that Rossi and Berstis fail to disclose a direction sensor configured to detect compass orientation direction data associated with an image located in a photographing direction of the camera. While the applicant's points are understood, the examiner respectfully disagrees. See for example Rossi column 3, lines 55-58. There Rossi discloses that data is used to compute the location of the

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object that the camera is pointed to. Berstis discloses in column 1, lines 57-60 and column 6, lines 57-61, displaying compass orientation direction. Therefore the combination, taken as a whole, teach the limitations as claimed. Therefore the rejections have been maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-4, 6-8, 19-22, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irube et al. (2001/0041586), (hereinafter referred to as "Irube") in view of Rossi et al. (5672820), (hereinafter referred to as "Rossi") in further view of Berstis (6542824) in further view of Tullis (6535243).

Regarding claims 1, 19, and 24-25, Irube discloses a communication terminal apparatus combined with a handset with high probability (Irube: paragraph 0001, lines 1-3). This apparatus comprises a "codec for performing converting operation between analogue voice data and digital voice data" (Irube: figure 1, item 23, wherein the voice codec is the codec), "camera module connected to a camera installed within the mobile terminal for performing converting operation between analogue image data and digital image data" (Irube: figure 1, items 4 and 25), "voice/image communication apparatus for multiplexing or demultiplexing the converted voice, image, direction data, and

frame" (Irube: figure 1, items 17 and 20, wherein the multiplexer/demultiplexer are part of the communication apparatus, paragraph 0113, lines 1-4, wherein the frame is a combination of the voice, video, and direction or other data), "LCD module for displaying image and direction data" (Irube: figure 1, items 14, 16, and 28, wherein the camera direction sensor unit provides the direction data and the video encoder provides the image data), and a "control unit for controlling each unit generally" (Irube: figure 1, item 11). Although Irube fails to show a direction sensor for detecting the compass orientation direction of a photographing object, displaying the direction data within the LCD, and the speaker and transceiver as disclosed, Irube does show a camera direction sensor unit (Irube: figure 1, item 28) for detecting the presence of the camera (Irube: paragraph 0047, lines 18-19). Rossi teaches that angles, compass headings (or compass orientation), and GPS coordinates, along with a camera, can be used to determine the objects location or direction (Rossi: column 4, lines 1-36). Berstis teaches that GPS receivers are a cost prohibitive way of determining the position and time information of an object (Berstis: column 1, lines 47-53). To overcome this problem, Berstis discloses an apparatus that determines and subsequently displays the compass orientation direction without using a GPS receiver (Berstis: column 1, lines 57-60, column 6, lines 57-61). Tullis teaches that transceivers and speakers are well known devices for easily relaying information between sources (Tullis: column 5, lines 13-16, column 8, lines 14-16). Therefore, it would have been obvious to one having ordinary skill

in the art at the time the invention was made to implement the camera direction sensor unit disclosed by Irube with the angle, compass, and GPS coordinates taught by Rossi, add the direction displaying taught by Berstis, and add the transceiver and speaker taught by Tullis in order to obtain an apparatus that more precisely and cost effectively locates and displays the direction of an object. Further, one would be motivated to do so since Irube is silent as to how the object location is determined.

Regarding claim 3, see the examiners comments for claim 1 and note that in the combination of Irube and Rossi as applied to claim 1, Irube discloses a "voice encoding processing unit for encoding the voice data input from the codec or converting the voice data into data for transmitting to a speaker" (Irube: figure 1, items 23 and 27, wherein the video encoder receives and encodes the voice data from the voice codec, item 2, wherein the voice data is transmitted to the handset, which contains a speaker), "image encoding processing unit for encoding the image data" (Irube: figure 1, item 27, wherein the image encoder is the video encoder), and "multiplexing unit for multiplexing the voice, image, and direction data" (Irube: figure 1, items 17 and 20). Rossi discloses "encoding the direction data" (Rossi: figure 5, item 30, wherein the direction data is obtained from the angular measuring system and the receiving module).

Regarding claims 4 and 21, Rossi discloses "calculating the compass orientation direction and encodes calculated compass orientation direction by formatting the orientation direction into a binary value" (Rossi: column 4, lines

20-36, wherein the angle is composed of the three angles α , β , and γ , figure 2, item 30, wherein the encoder encodes the angle and direction data, column 3, lines 32-46, wherein the digital value produced by the digital quartz inertial measurement unit represents the binary value, figure 3, item 66, wherein the compass heading is the compass orientation direction).

Regarding claims 6, Rossi discloses "displaying a direction on the screen" (Rossi: figure 5, item 48, wherein the display displays the direction).

Regarding claims 7, although not shown, it would have been obvious to display the direction on the screen in the form of a compass (Official Notice). Doing so would have been obvious to make the direction easier to view and read.

Regarding claims 8 and 20, see the examiners comments for claim 1 and note that in the combination of Irube and Rossi as applied to claim 1, Irube discloses that the "multiplexing unit multiplexes the encoded packet data and compass orientation direction data by receiving data from the voice, image, and direction units and inputs the data to the image frame by forming a flag and header" (Irube: figure 1, items 27, 28, 23, 17, and 20, wherein the multiplexer multiplexes data from the video encoder, voice codec, and camera direction unit, figure 12 and paragraph 0039, line 7, wherein the voice/video conversation appears to be in the flag/header format which would comply with the MPEG 4 standards disclosed by Irube. Had Irube and Rossi been combined as disclosed above, Rossi would supply the compass orientation data to be multiplexed, wherein the compass orientation data is the compass heading).

Regarding claim 22, Rossi discloses that the "direction data are formatted to display one byte of information" (Rossi: figure 2, wherein the direction and angle data are formatted to fit in the map and are then displayed).

3. Claims 9, 11, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irube et al. (2001/0041586), (hereinafter referred to as "Irube") in view of Rossi et al. (5672820), (hereinafter referred to as "Rossi") in further view of Berstis (6542824) in further view of Tullis (6535243) in further view of Takahashi et al. (6516094), (hereinafter referred to as "Takahashi").

Regarding claims 9, 11, and 23, note the examiners rejection for claims 1 and 19, and in addition, claims 9, 11, and 23 differ from claims 1 and 19 in that claims 9, 11, and 23 further require the formation of null data. Takahashi teaches that when a reference region is not described, i.e. no information/data is contained on the reference region to transmit, null data is formed and inserted into the description region (Takahashi: figure 5d, column 6, lines 55-61).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the camera direction sensor unit disclosed by Irube with the angle, compass, and GPS coordinates taught by Rossi, add the direction displaying taught by Berstis, and add the formation of null data taught by Takahashi in order to obtain an apparatus that more precisely locates the direction of an object. Further, one would be motivated to do so since Irube is silent as to how the object location is determined.

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4. Claims 5, 10, and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irube et al. (2001/0041586), (hereinafter referred to as "Irube") in view of Rossi et al. (5672820), (hereinafter referred to as "Rossi") in further view of Berstis (6542824) in further view of Tullis (6535243) in further view of Rudow et al. (6236940), (hereinafter referred to as "Rudow").

Regarding claim 5, note the examiners rejection for claims 1 and 19, and in addition, claim 5 differs from claims 1 and 19 in that claim 5 further requires having a displaying area on one side of the screen. Rudow teaches that having the direction, or position, of a golfer on one side of the screen enables more information to be displayed elsewhere (Rudow: figure 12, column 61, lines 55-65, wherein having the golfers direction displayed in the corner of the screen enables the hole information to be displayed as well, as opposed to having the golfers position take up the entire screen). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the camera direction sensor unit disclosed by Irube with the angle, compass, and GPS coordinates taught by Rossi, add the direction displaying taught by Berstis, and add the display means taught by Rudow in order to obtain an apparatus that more precisely locates and displays the direction of an object. Further, one would be motivated to do so since Irube is silent as to how the object location is determined.

Regarding claims 10 and 12, note the examiners rejection for claims 1 and 5, and in addition, Irube in view of Rossi in further view of Berstis in further view

of Rudow disclose "detecting the data demultiplexed image and direction data and transmitting to the displaying unit" (Irube: figure 1, paragraph 0113), "checking for a direction displaying mode" (Rudow: figure 6, wherein the list of menu choices on the right, i.e. 1-9, sets the hole to be displayed), "determining the position and method in displaying the direction and image data on the LCD if direction mode is set" (Rudow: figures 6 and 20, wherein the position is determined with the aid of GPS data, column 4, lines 1-3), "displaying the direction and image on the LCD" (Rudow: figures 6 and 20) and "displaying the compass orientation data within the image on the screen of the LCD, the compass orientation direction data being associated with a direction of the image, the image being located in a photographing direction of the camera" (Berstis: column 6, lines 50-67, wherein the compass orientation data is the arrow and compass points).

Regarding claim 13, Rudow discloses "the LCD displays only image data read from the voice/image communication apparatus if the direction displaying mode is not set" (Rudow: figure 13, wherein the image communication apparatus is the box 18 which includes a video controller, column 10, lines 34-38, wherein pop up windows or other various messages are displayed on the screen, column 4, lines 1-3).

Regarding claim 14, Rudow discloses having "a direction displaying area at one side of the screen" (Rudow: figure 20, wherein the direction displaying area is the left/center of the screen which shows the direction of the hole).

Regarding claim 15, Rossi discloses "displaying a direction on the screen" (Rossi: figure 5, item 48, wherein the display displays the direction).

Regarding claims 16, although not shown, it would have been obvious to display the direction on the screen in the form of a compass (Official Notice). Doing so would have been obvious to make the direction easier to view and read.

Regarding claim 17, Irube discloses "displaying comprises a transmitted stop image" (Irube: figure 12, wherein the End Negotiation frame is the stop image).

Regarding claim 18, Rudow and Berstis disclose "the LCD further displays time and date information with the image and compass orientation data" (Rudow: figure 20, column 5, lines 62-64, wherein it is determined, from the GPS satellites, the dates of the games played, column 4, lines 1-3; Berstis: column 6, lines 57-61).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (571) 272-7327. The examiner can normally be reached on Mon-Thurs and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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